REMARKS

The claims pending in the subject application, claims 1-26, stand rejected under 35 U.S.C. 112. According to the examiner, there is a conflict in what is shown in Figures 1 and 2.

As discussed below, it is respectfully submitted that Figures 1 and 2 are consistent. However, to clarify what is shown in these figures, Figure 2 and Figures 7A-7C have been amended.

Figure 1 of the subject application shows a cantilever beam 14 mounted parallel to the y-axis and fixed to a support 18. The beam 14 bends with negligible extension, and the motion of the tip of the beam is substantially in the x direction. Thus, the beam 14 is called the x-arm (Arm 1). Also in Figure 1, a cantilever beam 16 is mounted parallel to the x-axis and fixed to a support 20. The beam 16 bends with negligible extension, and the motion of the tip of this beam is substantially in the y direction. Thus, the beam 16 is called the y-arm (Arm 2).

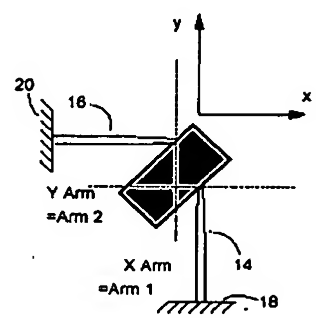
To simplify the analysis of cantilever beam stiffness, it is common to schematically represent a cantilever by a linear spring at the end of the beam, oriented perpendicular to the cantilever beam, and parallel to the beam bending direction. It is understood that this is an approximation which neglects the extension of the beam. This representation is common in undergraduate mechanical engineering curricula such as at Figure 1 of Glauser et al., *Mechanical and Aeronautical Engineering Senior Laboratory*, pp. 1-10. See, the section entitled "Modeling a Cantilever Beam." Reference can also be made to page 8 of *ASEN 2003: Introduction to Dynamics and Systems Spring 2002*, pp. 1-19. See, the section entitled "B.3 Modeling of Vibrations of Cantilever Beams by Elementary Beam Theory." Copies of both of these publications are attached.

Figure 2 schematically represents the equivalent stiffness of the beam 14, the x-arm, and the beam 16, the y-arm. The bending stiffness of the beam 14 is substantially along the x direction and is represented by a virtual spring element 14a. The high stiffness which prevents

extension of the beam 14 in the y direction is represented by a virtual constraint element 14b. The bending stiffness of the beam 16 is substantially along the y direction is represented by a virtual spring element 16a. The high stiffness which prevents extension of the beam 16 in the x direction is represented by a virtual constraint element 16b.

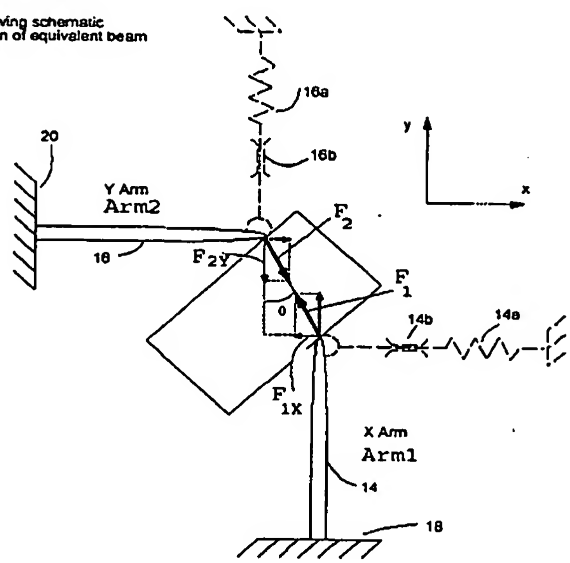
By way of further explanation, a simplified plan view of the system of Figure 1 of the subject specification is shown below:

Top View of Figure 1



Combining this view of Figure 1 with that of Figure 2, as illustrated below, shows the schematic representation of the equivalent beam stiffness:

Figure 2 showing schematic representation of equivalent beam stiffness.



Thus, as can be seen from the subject specification, as well as from the above explanation, what is depicted in Figures 1 and 2 is consistent with the operation of the claimed apparatus for manipulating an object.

In view of the foregoing, it is submitted that all the claims are now in condition for allowance. Accordingly, allowance of the claims at the earliest possible date is requested.

If prosecution of this application can be assisted by telephone, the Examiner is requested to call Applicants' undersigned attorney at (510) 495-3206.

Please apply any other charges or credits to Deposit Account No. 500388.

Respectfully submitted,
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